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1.96 R31 F.smo



Checking Mountain Soil Moisture Under the Snow, an important factor in Snowmelt runoff.

Federal-State Cooperative
Snow Surveys and Water Supply Forecasts

Montana and Northern Wyoming
Upper Missouri,
Upper Columbia and

SOIL CONSERVATION SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

Yellowstone Rivers

AND
MONTANA AGRICULTURAL EXPERIMENT STATION

In cooperation with the U.S. Forest Service, U.S. Geological Survey, National Park Service, U.S. Bureau of Reclamation, State Engineers of Montana and Wyoming and other Federal, State and local Organizations.

AS OF

UNITED STATES DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

TO RECIPIENTS OF COOPERATIVE SNOW SURVEY AND WATER SUPPLY FORECAST REPORTS:

Snow surveys in the West are conducted each year at more than 1200 snow courses. Basin and Province or State snow survey reports summarizing the results of the measurements and forecasts of seasonal runoff and water supply are issued by the Soil Conservation Service, U. S. Department of Agriculture and some of its cooperators; the Water Rights Branch of the British Columbia Department of Lands and Forests; and the California Division of Water Resources.

Copies of the various federal-state cooperative snow survey reports listed below may be secured by writing to:

Head, Water Supply Forecasting Section Soil Conservation Service 209 S. W. 5th Avenue Portland 4, Oregon

BASIN REPORTS:

	· · · · · · · · · · · · · · · · · · ·	Issued monthly February through May by SCS and Colorado Experiment Station, Fort Collins, Colorado.*
	Columbia River Basin	Issued monthly January through May by Soil Conservation Service, Boise, Idaho.*
	Upper Missouri River Basin	lssued monthly February through May by SCS and Montana Agricultural Experiment Station, Bozeman, Montana.*
		Issued April 1 by Soil Conservation Service and Cooperators, Portland, Oregon.
ST	ATE REPORTS:	
	Arizona	Issued semi-monthly January 15 through April 1 by SCS and Salt River Valley Water Users Association, Phoenix Arizona.*
	Nevada	Issued monthly February through April by SCS and Nevada State Engineer, Reno, Nevada.*
	Oregon	Issued monthly January through May by SCS, Portland, Oregon, and Oregon Agricultural Experiment Station.*
	Utah	lssued monthly January through May by SCS, Salt Lake City, Utah, and State Engineer of Utah and Utah Agricultural Experiment Station.*
	Washington	Issued monthly February through May by SCS, Spokane, Washington, and State Department of Conservation and Development.*
	Wyoming	lssued monthly February through May by SCS, Casper, Wyoming, and State Engineer of Wyoming.*
		*Special reports are issued as needed.

The British Columbia reports are issued February 1 through June 1 and may be secured from Comptroller, Water Rights Branch, Department of Lands and Forests, Parliament Buildings, Victoria, B.C.

The California reports are issued monthly February 1 through May 1 and may be secured from Division of Water Resources, California Department of Public Works, Sacramento, California.

The annual water supply forecasts of the Weather Bureau are available in monthly bulletins published from January through May. These bulletins entitled, "Water Supply Forecasts for the Western United States' may be obtained from River Forecast Center, Weather Bureau, 712 Federal Office Building, Kansas City 6, Missouri.

FEDERAL - STATE COOPERATIVE

SNOW SURVEYS and WATER SUPPLY FORECASTS

for

MONTANA AND NORTHERN WYOMING

(Upper Missouri and Upper Columbia River Basins)

Report Prepared by:

A. R. Codd Hydraulic Engineer Soil Conservation Service

and
O. W. Monson
Irrigation Engineer
Montana Agricultural
Experiment Station

Soil Conservation Service
U. S. Department of Agriculture
and
Montana Agricultural Experiment Station
Bozeman, Montana

Report issued by:

Truman C. Anderson State Conservationist of Montana

M. M. Kelso, Director Montana Agricultural Experiment Station



WATER SUPPLY OUTLOOK as of APRIL 1, 1956

The 1956 snow pack over the mountainous area of Montana * is 15 per cent to 30 per cent above average. An excellent * water supply for irrigation and power production is virtually * assured. Snow surveys made on the Kootenai Basin, Canada and * the northwestern corner of the State indicate another FLOOD * POTENTIAL along that stream. This year's snow pack is equal * to the pack of 1954 and 1946. This year's pack is consider-* ably larger than 1948. East of the Continental Divide the Missouri River Basin * is covered with a snow pack varying from 86 per cent average * on the head of the Beaverhead River to 33 per cent above * average at Marias Pass near East Glacier. Most all snow sur-* vey courses showed 20 to 40 per cent more snow than last * * year, 1955. Stream flow forecasts are up 15 to 30 per cent above the * * average and considerably above last year's flow by 40 per cent. Reservoir Storage is GOOD for the first of April. There * * should be little trouble in filling irrigation reservoirs and * * most of the power reservoirs.

JEFFERSON RIVER:

The April first snow pack on the Beaverhead-Jefferson Basin this season is generally above average by 25 per cent. The Upper Beaverhead in the Red Rock and Lima area is definitely short. Here, the snow cover is only 86 per cent average. The one course on the Ruby Drainage survey is 7 per cent below the average. Horse Prairie, Big Hole and Wise River Basins have between 23 and 28 per cent more snow water content than average.

Stream-flow forecasts are shown in detail on the tables immediately following. This year's April-September and April-July flow forecasts, together with late years flow, and the 15-year average, 1938-1952, are tabulated for your convenience.

MADISON RIVER:

April snow surveys made in Yellowstone Park indicate that this year's snow pack is above average by 15 per cent. Although not exceptionally great, there will be considerably more water than last season.



GALLATIN RIVER:

Snow surveys made on the divide between the Callatin and Madison Rivers and nearby courses, show that this winter's pack is 19 per cent above average and 26 per cent above last year. On this unregulated stream, plenty of water will be available in the early months of the runoff period with the usual shortage late in the summer.

MISSOURI RIVER MAIN STEM:

The snow pack along the tributaries of the Missouri, from Toston to Fort Benton, have a good snow pack this season with the exception of the Teton and Milk Rivers being a little short. As seen on the tabulation of Snow Comparisons, the Teton is 10 per cent below average and the Milk River appears to be 24 per cent below average. May first readings of the snow courses in the vicinity of Lake Mary will give a better estimate of the Milk River conditions. The Marias and Sun Rivers should produce slightly above normal flow between April first and September 30.

The anticipated flow into Gibson Reservoir is 716,000 acre feet or 26 per cent above average.

YELLOWSTONE RIVER:

Measurements made on or about April first in Yellowstone Park and surrounding areas, indicate that the 1956 snow pack is 37 per cent above average. This pack is better than half again heavier than last season. The snowmelt season flow at Corwin Springs will be 2,434,000 acre feet, which is considerably above the average of 1,870,000 acre feet for April through September. Flows on down the Yellowstone River are comparable to this percentage. At Sidney the flow for April-September should be 7,877,000 acre feet or 118 per cent average.

The combined Missouri and Yellowstone Rivers should pass approximately 14 million acre feet of water into Garrison Reservoir below Williston, North Dakota, or 25 per cent above the average flow. Five and one-half million acre feet of this volume forecast are subject to regulation at Fort Peck Dam.

COLUMBIA BASIN

FLATHEAD RIVER:

April first snow surveys on the several tributaries to the Flathead River all show an above average snow pack, varying from normal to 30 per cent or more above average. Snow survey courses used to forecast the stream-flow in this basin show a snow pack 28 per cent above average. The flow into Hungry Horse Reservoir for April through September should be 2,580,000 acre feet, or 24 per cent above the average flow of 2,058,000 acre feet. The forecast flow this season is 500,000 acre feet more than occurred last season. Forecast flows of other tributaries to this stream, together with Comparison data, are tabulated on the forecast data sheets.



COLUMBIA BASIN - CONT'D

CLARK FORK RIVER:

The snow pack this spring on the upper portions of this basin are relatively light, but increase in per cent above average to the west. The basin as a whole averages 38 per cent more than usual. The Bitterroot Basin is almost as high with a snow pack equal to 131 per cent average. Both these basins have a heavier snow pack than the Flathead.

The flow of the Clark Fork above Missoula is forecast to be 2,015,000 acre feet from April through September or 26 per cent above average. The snow pack along the crest of the Bitterroot mountains to the south and west of the Clark Fork River below Missoula, has a tremendous volume of water stored in the snow. At Hoodoo Creek Divide the snow is 166 inches deep with 68.6 inches of water content. This depth was exceeded in 1950 and 1954 when 183 inches and 173 inches, respectively, were measured. The water content was exceeded only once, in 1934, when 69.0 inches were measured. It is believed that the volume of water from this snow pack will be felt more on the Clearwater River than on the Clark Fork.

The combined Clark Fork and Flathead Rivers at Cabinet Gorge should flow 15,275,000 acre feet between April and September 30 this season, or 25 per cent above the average figures.

FLOOD POTENTIAL

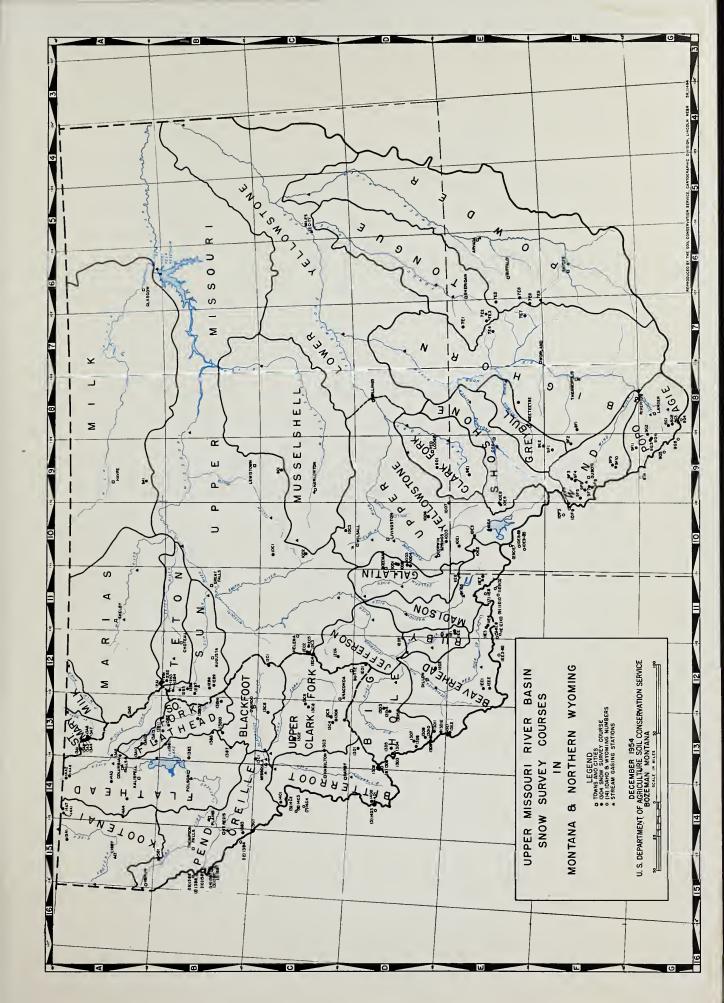
The Kootenai Basin is again covered with a snow pack that could produce floods from snowmelt. The snow courses in Canada and those in the north-western corner of Montana are far above average by 51 per cent. The snow pack season is 42 per cent greater than last year.

At Blue Bird Basin, northeast of Eureka, the snow surveys showed 132 inches of snow with 51 inches of water content—a record high for 17 years of record. At Baree Mountain, south of Libby, the snow is 145 inches deep with 61.4 inches of water content—a record high for this course over 17 years of data.

This year's data is comparable with that of 1950 and 1954 and much higher than 1948 and 1943, which were heavy years in past years of record.

Once again, the occurrence and timing of the snowmelt factors will govern the height of the 1956 peak flows which are inevitable to occur from this snowmelt season.





INDEX TO MONTANA & NORTHERN WYOMING SNOW COURSES

			Loc	ation					Location	
Drainage Baein and Course Nama JEFFERSON RIVER (ROCK-BEAVERHEAD)		<u>≅1ev</u> . ISSOUI	Sec. Lat.	<u>™</u> . IVER	Ranga Long. DRAI	Record Began NAGE	Measuring Dates	Bys °	Drainage Baein Montana Sec. Range Recor and Course Name Number Elev. Lat. Twp. Long. Began	
Lakeview Ridge Lakeview Canyon Limekiln	11E3 11E4 12E2 12E1	7400 6930 6950 8850	27 26 5 18	145 145 155 145	2W 2W 9W 9W	1948 1948 1948 1948	3,4,5, 3,4,5 3,4 3,4	9 9 1 1	Blue Ridge 852 9500 23 31N 101M 1939 Grannior Keadows 86L 9000 19 30N 100M 1936 Lersen Greek 976 9000 12 30N 107M 1948 Sawnill Tolade 861 800 3 31N 101M 1399 South Pass 83 9000 13 30N 101M 1939	2,3,4,5 12 2,3,4,5 12 3,4,5 12 2,3,4,5 12 2,3,4,5 12
Gold Stone Lemhi Pase Terrell Creek Trail Creek	13D10 13D9 13E1 13D12 13E2 13D11	7600 8100 7480 6650 7090 6800	12 11 9 14 15 27	85 85 105 95 106 85	16W 16W 15W 15W 15W	1948 1948 1948 1948 1948	3,4 3,4 3,4 3,4 3,4 3,4	1 1 1 1 1	BOS RORN RIVER Myoming Bosvers Mill 9P2 6900 6 Lijn 102w 19L8	2,3,4,5 12 2,3,4,5 12 4,5 1 4,5 12 4,5 1 2,3,4,5 12
Big Hole Pase-Below East Boundary Cibbons Pase Jahnke Creek Miner Porke	1305 1302 1308 1306	7400 6900 6700 7100 7340 7300 6720	28 24 22 4 25 24 10	3S 3S 3S 2S 7S 6S 6S	18W 18W 17W 19W 16W 17W 16W	1948 1948 1948 1934 1948 1948	3,4 3,4 3,4 1,2,3,4,5 3,4 3,4,5	1 1 1,2 1	(Shoehone River) Wyoming East Entrance 10E6 7000 17 52N 109W 19UB Sylvan Pase 10E5 7100 12 52N 110W 1936 (TONDUS RIVER) Wyoming	1,2,3,4,5 5 1,2,3,4,5 5
(WISE RIVER) Anderson Mdw. Klk Rorn	13D14 13D15 13D13	7000 8450 6300	18 15 15	35 45 25	12W 12W 12W	1948 1934 1948	3,4,5 3,4,5	1 2 1	Big Goose 7E2 7700 4 53N 86M 1945 Burgoss Ranger Ste. 7E1 7900 36 56N 69M 1950 Dome Lako 7E3 6800 11 53N 87M 1950 Lodgepolo 9E1 8200 32 56N 106M 1940 POMDER RIVER	2,3,4,5 1 2,3,4,5 12 2,3,4,5 12 4,5 1
(RUBY RIVER) Cottonwood Cottonwood (Upper) Flashlight Tobacco Root	11E2 11E1 12D3 12D2 11D1	5900 8400 6950 6900 6125	24 30 22 13 28	10s 10s 8s 4s	3W 2W 7W LLW 3W	1948 1948 1945 1948 1948	3,4 3,4,5 3,4,5 3,4	1 1 1 1 1 1 1	North Powder 789 8500 5 L7N 85W 1951 Muddy Pass 728 9700 11 L6N 85W 1950 Soldiser Park 785 8700 36 51N 85W 1950 Sour Dough 785 8500 17 L9N 8LW 1936	2,3,4,5 12 2,3,4,5 1 2,3,4,5 12 2,3,4,5 1
MADISON RIVER				,-					COLUMBIA RIVER BASIN	
West Yellowetone	11E5 11E7 10E2	65 5 0 6700 7500	22 Ֆկ հկ^-կ։	11S 13S 2'	110°-42' 26 36	1934 1934 1935	1,2,3,4,5 1,2,3,4,5 3,4	2 2 5,6	ROTENAI RIVER	4,5,51 1 4,5,51 1
Hood Meadow Myetic Lake New World	1004 1003 1002 1001 11P6	8100 6600 6600 6700 7150	14 22 30 24	55 45 35 35 115	68 68 7 8 62 5 2	1935 1934 1935 1939 1934	2,3,4,5 2,3,4,5 2,3,4 1,2,3,4,5	2,6 2,6 6,7 6,7	Red Mountain 15a1 6000 L 36N 29W 1937 Weasel Divide 1La7 5L50 8 37N 2LW 1955 FLATHRAM RIVER	3,4,5,51 1 4,5,51 1
21-Mile MISSOURI RIVER MAIN :		7150	1	ш	>£	1934	1,2,3,4,5	2	Basin Craek 13RLl 5000 11 159 12W 1951 Big Greek 13B3 6750 647 22N 18W 1941 Brueh Greek 11Al 5000 13 30N 25W 1937 Cattle Queeo 13Al 1700 7 35N 17W 1937	2,3,4,5 1 3,4,5 4 3,4,5 1
Crystal Lake Grasshopper Kings Hill Pionic Grounds Pipestone Pass Stemple Pass	1205 901 1002 1001 1206 12D1 1201 1202 1203 1204	6200 6100 7000 7950 6500 7200 6900 6250 6800 8000	2 19 19 35 10 11 16 13 13	BN 12N 9N 13N 5N 1N 13B BN BN	5ท 188 8E 7E 6ส 7พ 7พ 6ส 6ส 5พ	1941 1938 1937 1940 1938 1934 1935 1934	1,2,3,4,5 3,4,5 2,3,4,5 2,3,4,5 3,4,5 1,2,3,4,5 1,2,3,4,5 1,2,3,4,5	2 1 1,12 2 3 12 2 2 2 2	Cattle Queeo 13a1 1700 7 35N 17N 1339 Decert Mountain 13A2 5600 2L 31N 19W 1937 Rell Roaring Divide 1La3 5770 35 32N 22W 1942 Rolbrook 13B13 1550 18 21N 13W 1951 Liehenehn 1La2 1300 7 37R 21W 1951 Liehenehn	3,4,5 5 1,2,3,4,5 1 1,2,3,4,5 1 1,2,3,4,5 5 4,5 5 4,5 5 1,2,3,4,5 1 1,2,3,4,5 1 3,4,5 1 3,4,5 1 3,4,5 1 3,4,5 1 3,4,5 1
Waldron Creek	12A1 12B2 12B1	6000 5600 6000	13 16 6	26 N 25 N 25 R	10# 9# 9#	1948 1948 1948	3,և 3,և 3,և	1,12 1,12 1,12	Twin creeke 13R11 3500 14 26N 16W 1951 Quintonkom 13a13 3800 11 26N 17W 1951 Coyote Hill 13B10 1200 12 18N 16W 1752 Ki Dorado Mine 13C9 7800 23 8N 12W 1946 Oold Creek Lake 13C8 7200 14 8N 12W 1946	2,3,4,5 1 2,3,4,5 1 1,2,3,4,5 1 4 12
Cabin Creek 5-Bull Gates Park Goat Mountain Wrong Ridge	1288 1286 1289 1285 1287 1283 1284	5500 5400 5600 5300 7000 6800 5700	9 33 36 31 20 17 32	20N 23N 20N 24N 22N 25N 25R	10W 10W 10W 10W 10W 10W	1948 1949 1948 1949 1934 1949	3,4 3,4 3,4 3,4 3,4	1 1 1 2 1	Intergard 13Cl 6150 6 5N 1N 139 139 149 140	2,3,b 3 1,2,3,b,5 1 2,3,b,5 1 1 1,12 2,3,b,5 2,3,b,5 2,3,b,5 2,3,b,5 2,3,b,5 3 3,b,5 2 2,3,b 3 3,b,5 3
(MARIAS RIVER) Marias Pase	13 a S	5250	3lı	30N	П'n	1936	1,2,3,4,5	2	Stuart Mountain #1 1301 7400 6 14N 16W 1936 PEND OREILLE RIVER	1,12
(MILK RIVER) Rocky Boy	941	5200	15	28 N	168	1941	3,4	7	Baree Mountain 13Bl 6000 1 25N 31W 1937 Presseout Summit #2 15Bl 6800 21 15N 27W 1951 Roodoo Creek 15Cl 6200 %16 1LN 27W 1937	4,5,5 ¹ 1 4,5 1
(MUSSELSHELL RIVE	1003	7000	19	9N	8B	1938	3,4	1,12	### BITTERROOT RIVER East Fork Ranger Sts. 13D1 5400 16 2N 17W 1937 Olbbone Pase 13D2 7100 4 2S 15W 1934	4 1,12
Canyon Cooke City Crevice Mt. Independence Lake Camp	901 1023 1007 1005 1006 1024 1021	7400 8400 8000 7850	2 40-44, 25 22 22 40-34, 40-54,	95 95 75	18g 100-30; 1lig 9E 12g 100-2li; 100-37;	1937 1935 1941 1937	4, 1,2,3,4,5 1,2,3,4,5 3,4 3,4 1,2,3,4,5	1,12 12 5 1 12	Olbbone Pace 13D2 7100 l 25 19W 1931 Hud Creak Pacture 1hcl 1500 2l 11N 2lw 1937 Nes Perce Cemp 1hD2 5580 19420 15 23W 1937 Ns: Perce Pace 1hD1 6575 32 28N 163 1937 Skalkaho Summit 13C3 7259 30 6R 17W 1937	1,2,3,6,5 -1,12 3,6,5 1,12 3,6,5 1,12 1,12 6 1,12
Lupine Creek (SHIELDS RIVER)	1051	7300 L	μ> u '	1	1031	1938	1,2,3,4,5	5	SASKATCHEWAN RIVER BASIN	
LOWER YELLOWS TONE	1003	6500	10	ЙN	102	1938	3,4	1	ST. MARY RIVER Tom borg Lake	5 2,8 5 2,8 5 2,8 5 2,8
Burroughs Creek Dinwoodia Dry Creek Dunoir Goyser Creek Hobbs Park Little Werm Mosquito Park R.S. Sheridan R.S. St. Lawrence R.S. T-Croek Trout Creek	9 F 9 9F6 9 F 7	9200 8800 10000 9500 8750 8500 10000 9500 9500 9500 9000 8000 8100 9600	23 15 21 34 27 12 22 24 23 3 26 1 5	LLIN L3N J39N LIN L2N L1N 2S L1N 2S L2N 1N L3N L3N L4N L3N L4N L4N L4N L4N L4N L4N L4N L4N L4N L4	110N 107N 105N 105N 108N 108N 2n 105N 107N 107N 2n 1107N	1939 1948 1948 1940 1940 1940 1949 1948 1940 1959 1940 1940 1946	2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5	12 12 12 12 12 12 12 12 12 12 12 12 12 1	Ptarwig an #8 13A8 5800 480-50* 113*-12* 1922 a. Numerals 1,2,3,4 and 5 refer to January 1, February 1, March b. Numerals refer to Agoncy that secures the snow survey as foll 1. U.S. Poreat Service 7. City of Bose 2. U.S. Goological Survey 8. Dominion Mat 3. Montans Power Company 9. U.S. Plath an 4. U.S. Indian Service 10. U.S. Bureau 5. National Park Service 11. Deer Lodge C 6. Kontans Experiment Station 12. Soil Conserve 13. Kontans Stati	5 2,6 1, April 1, and Zay 1. ows: man sr & Power Bureau d Middlife Sarvice of Reclamation titions Committee ation Sorvice

MONTANA STREAM-FLOW FORECASTS APRIL 1, 1956

The following summarized runoff forecasts are based principally on mountain snow cover and on the assumption that precipitation and temperature during the forecast period will be near average. Appreciable deviations from normal of precipitation and temperature during the forecast period will correspondingly modify these forecasts.

		nal Strea	m-Flow in Th	nousanas	of Acre r	
UPPER MISSOURI RIVER	FORECAST	; _ %	FORE-			, 15-Yr.
IN MONTANA	RUNOFF	15-Yr	CAST		Runoff*	
		AVG.	PER10D	1954	1953	1938-52
		\$ 2	;			
RED ROCK RIVER		1			1	
Monida (near) (1)	7 3	90	Apr-Sept.	61	72	81
	61	90_	Apr-July	55	73	76
BEAVERHEAD RIVER	= 0.0	7.00		06	3.50	1.00
Barrats (at)	189	107	Apr-Sept	96	170	177
DIG HATE DITTED	11,4	107	Apr-July	71	130	134
BIG HOLE RIVER	070	131	Ann Sont	541	745	745
Melrose (near)	973 900	131	Apr-Sept Apr-July	497	699	687
JEFFERSON RIVER	900	1 1)1	WIT - OUTA	4.71	677	007
Sappington (at)	1359	130	Apr-Sept	633	1006	1046
Sapping ton (at)	1206	129	Apr-July	564	921	929
MADISON RIVER	.1,7,570				!	
West Yellowstone (nea	r) 254	128	Apr-Sept	219	207	198
	194	128	Apr-July	168	158	151
Grayling (near) (2)	502	120	Apr-Sept	421	434	420
(Met inflow to Mebgen I	k) 398	120	Apr-July	333	347	333
McAllister (near) (3)		117	Apr-Sept	658	718	726
	685	117	Apr-July	521	577	585
GALLATIN RIVER						
Gateway (near)	500	112	Apr-Sept	365	403	445
	431	112	Apr-July	310	345	384
Logan (at)	555	116	Apr-Sept	322	442	478
	476	116	Apr-July	261	379	1,10
MIŠSOURI RIVER	2042	226		27/2	07.00	205'5
Toston (at) (3)	2851	126	Apr-Sept	1561	2139	2255
B 1 D 1 (1)	21,12	127	Apr-July	1322	1868	1896
Fort Benton (at) (4)	1,299	127	Apr-Sept	2608	4556	3381
Vincella (at) (L)	<u>3624</u> 5229	126	Apr-July Apr-Sept	2174 3395	1,019 5864	2874
Virgelle (at) (4) (Loma)	4464	130 130	Apr-July	2869	5275	3445
Zortman (near) (l _i)	5547	127	Apr-Sept	3749	6715	4357
of one (near) (ii)	4721	127	Apr-July	3147	6058	3726
Ft. Peck Dam(below)(5		123	Apr-Sept	3315	5798	4362
Williston, W. D.	4638	122	Apr-July	2580	5353	3792
Inflow to Garrison R.(11.016	125	Apr-Sept		11565	11154

⁽¹⁾ Observed flow plus change in Storage in Lima Reservoir

⁽²⁾ Observed flow plus change in Storage in Hebgen Lake

⁽³⁾ Observed flow plus change in Storage in Hebgen and Ennis Lakes (4) Observed flow plus change in Storage in Canyon Ferry

⁽⁵⁾ Observed flow plus change in Storage in Canyon Ferry & Ft. Peck Reservoirs

^(**) Preliminary data furnished by U. S. Geological Survey subject to correction (*) Average is for less than 15 years of record in the 1938-52 period.



	Seaso	nal Stream	T ni wolf-m	housands	of Acre F	eet
UPPER MISSOURI RIVER	FORECAST	1 ,3	FORE-			15-Ir.
IN MONTAHA	RUHOFF	15-Yr.	CAST		Runoff	Avg.
		AVG.	PERIOD	1954	1953	1938 - 52
SUI RIVER						
Vet inflow to Gibson		3		· usa		
Reservoir	716	126	Apr-Sept	748	738	570%
	656	126	Apr-July	691	684	521*
MARIAS RIVER	,	-		-01	1	700
Shelby (near)	735	139	Apr-Sept	784	933	527
· · · · · · · · · · · · · · · · · · ·	675	132	Apr-July	715	871 1025	512
Brinkman (near)	754 69lj	143	Apr-Sept	1	963	L186
JUDITH RIVER	074	<u> </u>	11,71 -0 CL,y	750	, , , , , , , , , , , , , , , , , , ,	1
Utica (near)	37.9	95	Apr-Sept	22.4	38.3	39.8
,	34.7	96	Apr-July	20.4	36.0	36.3
MISSELSHELL RIVER		1				(0
Delphine (near)	6.8	100	Apr-Sept	3.1	5.7	6.8*
TT 7 / /	5,6	1.00	Apr-July	2.4	5.6 74.2	5.6 *
Harlowton (at)	79 73	90	Apr-Sept	20.4	66.1	80.9
Mosby (at)	143	86	Apr-Sept	35.0	124.0	166.0
.135.5, (40)	134	86	Apr-July	17.5	119.0	155.0
HELLOWSTONE RIVER						
Corwin Springs (at)	2434	130	Apr-Sept	201/1	1645	1870
	2031	130	Apr-July	1686	1362	1556
Livingston (near)	2757 22 7 7	129	Apr-Sept Apr-July	2232 1848	1820 1496	23.43 1770
Billings (at)	5102	127	Apr-Sept	3642	3367	4025
DITITIOS (SO)	4304	125	Apr-July	3129	2854	3446
Niles City (at)	7515	117	Apr-Sept	4735	4648	6369
	6431	119	Apr-July	3980	3905	5421
Sidney (near)	7877	118	Apr-Sept	4765	4716	6648
	6825	119	Apr-July	3991	4053	5721,
SHIELDS RIVER	11.0	777	A C4	00.8	67.0	1.0 7
Wilsall (near)	42.1	111	Apr-Sept	29.8	61.0	40.1
Clyde Park (at)	125	118	Apr-Sept	27.6 65	103	106
or, ac rain (ac)	116	119	Apr-July	60	122	98
CLARK FORK RIVER			3 3 2 3			1
Chance (at)	729	126	Apr-Sept	600	519	580
	653	126	Apr-July	553	469	517
Edgar (at)	748	122	Apr-Sept	619	528	614
H 2:1 G D C / 1)/5	660	123	Apr-July	561	467	539
Hyalite Cr. R.S. (at)(7		111	Apr-Sept	32	33	35
	32	111	Hor-July	27	29	30

⁽⁷⁾ Observed flow plus change in Storage in Hyalite Reservoir (**) Preliminary data furnished by 0. S. Geological Survey subject to correction (*) Average is for less than 15 years of record in the 1938-52 period.



MONTANA STREAM-FLOW FORECASTS APRIL 1, 1956

					_	
	Seaso	nal Stream	n-Flow in T	housands	of Acre F	eet
MISSOURI RIVER BASIN	FORECAST	%	FORE-			15-Yr.
YELLOWSTONE RIVER	RUNOFF	15-Yr.	CAST	Measured	Runoff**	Avg.
TRIBUTARIES IN WYOMING		AVG.	PERIOD	1954	1953	1938-52
GIC HORN RIVER						
Boysen Dam(below)(9)	1 175	125	Apr-Sept	430	61 8	940
Kane (at)	1580	125	Apr-Sept	695	-805	1344
St. Xavier(near)(10)	2500	120	Apr-Sept	1225	1096	2055
POPO AGIE RIVER						
Riverton (near)	442	117	Apr-Sept		218	378
SHOSHOME RIVER						
Buffalo Bill Dam(be)(12)	1000	128	Apr-Sept		582	780
TONGUE RIVER						
Dayton (near)			Apr-Sept			
Decker(near) Montana (13	3)		Apr-Sept	111	190	255*

- (8) Observed flow plus Storage in Bull Lake and Pilot Butte Reservoirs
- (9) Observed flow plus Storage in Boysen Reservoir
- (10) Observed flow plus Storage in Boysen
- (11) Observed flow plus Storage in Bull Lake Reservoir
- (12) Observed flow plus Storage in Buffalo Bill Reservoir
- (13) Observed flow plus Storage in Tongue Reservoir
- (**) Preliminary data furnished by U. S. Geological Survey subject to revision
- (*) Average is for less than 15 years of record in the 1938-52 period



		nal Stream	m-Flow in T	housands	of Acre F	eet
UPPER COLUMBIA RIVER	FORECAST	%	FORE-	7	D 0000	15-Yr.
IN MONTANA	RUNOFF	15-Yr.	CAST		Runoff**	
		AVG.	PERIOD	1954	1953	1938-53
CLARK FORK RIVER				,		
Bonner (above) (14)	936	124	Apr-Sept	604	808	751
bonner (above) (14)	824	124	Apr-July	512	717	662
	703	124	Apr-June	423	619	566
Missoula (above)	2015	126	Apr-Sept	1737	1887	1602
MISSOULA (acove)	1803	126	Apr-July	1535	1695	1429
	1568	127	Apr-June	1248	1435	1229
Missoula (below)	3787	127	Apr-Sept	3309	3158	2971
(= = = ,	3455	128	Apr-July	2979	2879	2700
	3026	129	Apr-June	2335	2370	2335
St. Regis (at)	5070	130	Apr-Sept	4884	4068	3951
	4599	128	Apr-July	4408	3698	3582
	3978	125	Apr-June	3574	3051	3157
Plains (near) (15)	13625	127	Apr-Sept	14695	11882	10747
	12230	125	Apr-July	13274	10953	9813
	10626	125	Apr-June	101,23	9052	8434
Cabinet Gorge (at) (1		125	Apr-Sept	16510	13002	12090
	13880	126	Apr-July	14535	11767	11056
	11778	125	Apr-June	11737	9720	9493
RLACKFOOT RIVER						0
Bonner (near)	1079	127	Apr-Sept	1126	1078	851
	972	127	Apr-July	1077	97?	757
	839	127	Apr-June	819	816	553
BITTERROOT RIVER	602	7 77	Ann Cont	۲۵.2	L L -	ل حرم ح
Darby (near)	593 5L2	131 132	Apr-Sept	523 480	557 522	525 487
	564	132	Apr-July Apr-June	398	429	407
A	1772	129	Apr-Sept	1725	1201	1369
At Mouth (16)	1653	130	Apr-July	1598	6184	1270
	1459	132	Apr-June	1396	935	1106
FLATHEAD KIVER	-4//		IIPI Guile			1100
Columbia Falls (near)	2228	124	Apr-Sept	2741	2049	1796
(North Fork)	2034	129	Apr-July	2444	1875	1575
,	1748	129	Apr-June	1874	1540	1350
Columbia Falls (at) (124	Apr-Sept	8267	6522	5619
, , ,	6516	125	Apr-July	7559	6745	5214
	5711	126	Apr-June	5923	5043	4530
Polson (near) (15)	8190	126	Apr-Sept	9742	7565	6520
	7637	126	Apr-July	8886	7081	6059
	6585	126	Apr-June	6884	5880	5226

Difference in observed flow, Clark Fork above Missoula & Blackfoot at Bonner (14)

⁽¹⁵⁾ Observed flow plus change in Storage in Flathead Lake & Hungry Horse Res. (16) Difference in observed flow, Clark Fork above and below Missoula

⁽¹⁷⁾ Observed flow plus change in Storage in Hungry Horse Reservoir

^(**) Preliminary data furnished by U. S. Geological Survey subject to correction



MONTANA STALAM-FLOW FORECASTS APRIL 1, 1956

	Seasor	nal Strea	n-Flow in T	housands	of Acre F	eet
UPPER COLUMBIA RIVER F	OKECAST	%	FORE-		When the second section is the second	15-Yr.
IN MONTANA	RUNOFF	15-Yr.	CAST	Measured	Runoff**	Avg.
		AVG	PERIOD	1954	1953	1938-52
		1				
WIDDLEFORK FLATHEAD						
HIVER						
West Glacier (near)	2021	121	Apr-Sept	2446	2066	1662
	1867	121	Apr-July	2245	1926	1540
	1601	121	Apr-June	1743	1581	1322
SOUTH FORK FLATHEAD						
RIVER						
Columbia Falls (near)(17)	2580	124	Apr-Sept	2852	2277	2058
(Net inflow to Hungry	2450	126	Apr-July	2693	2171	1950
Horse Reservoir)	2182	127	Apr-June	2173	1846	1724
SWAN RIVER						
Big Fork (near)	772	132	Apr-Sept	575	504	584
, ,	687	132	Apr-July	589	534	518
	572	133	Apr-June	431	415	427

⁽¹⁷⁾ Observed flow plus change in Storage in Hungry Horse Reservoir (**) Preliminary data furnished by U. S. Geological Survey subject to correction



COMPARISON OF SNOW COVER WITH THAT OF PREVIOUS YEARS

Summary of snow survey data by tributary Watersheds April 1, 1956

TRIBUTARY BASINS	No. of Courses	Years	1		er Equivalent per cent of
	Averaged	1938-52			15-Yr. Avg % 1938-52
MISSOURI RI	VER BASIN	IN MONTA	ANA		
JEFFERSON RIVER	Action of the Control				
Rock-Beaverhead Horse Prairie Big Hole Wise River Ruby River	7 6 8 3 1	5-15 5 5-15 5-15 8	121 198 15h 146 64	101 145 127 127 67	86 125 123 128
MADISON RIVER	7	14-15	123	106	115
GALLATIN RIVER	14	14-15	126	120	119
MISSOURI MAIN STEM	10	14-15	113	96	107
Teton River Sun River Marias River Milk River Musselshell River	3 5 1 1	4-14 15 11 15	105 126 126 76 123	69 70 82 66 94	91 105 133 76 121
UPPER YELLOWSTONE (MONTANA)	7	7-15	160	122	137
Shields River	·l	14	142	109	135
LOWER YELLOWSTONE (WYOMING)	5	14-15	166	125	140
Clark Fork River Shoshone River Wind River Popo Agie River Greybull River Tongue River	1 2 4 5 1	15 7-15 12-15 18-13 13	162 174 156 131 141	132 130 120 90 79	150 134 137 122 105
Powder River	3	6-15		141	168
COLUMBIA R	IVER BASIN	N IN MON	CANA		
KOOTENAI RIVER ABOVE LIBBY, MONT FLATHEAD RIVER UPPER CLARK FORK BITTERROOT RIVER	. 10 8 11 5	14-15 12-15 12-15 10-15	142 136 142 139	96 96 119 114	151 128 138 131



					SNOW CO				
MISSOURI BASIN				1956		11	st Rec		Total
DRAINAGE BASIN			Date	Snow	Water	Wate	er Con		Years
AND			of	Depth	Content			15-Year	of
SNOW COURSE	No.	Elev.	Survey	(In.)	(ln.)	1955	1954	Average,	Record
								1938-52	
JERFERSON RIVER								Automotive tribus	
(Rock-Beaverhead)								,	
Lakeview Ridge	11E3	74,00	14/1	36	9.2	7.6	8.5		8
Lakeview Canyon	11E4	6930	4/1	1,7	11.2	4.9	8.7		8
Limekiln	12E2	6950	3/13	10	1.2	1.5	1.0		8
White Pine Rdg	12E1	8850	3/13	25	5.8	5.0	6.8		8
*Milgore	11E12	6200	4/2	23	7.4	7.5	8.3	i i	19
*Camp Creek	12E3	6800	3/30	27	8.7	7.7	10.0		20
*Blue Ledge Mine	llEll	6700	14/2	42	15.9	14.7	15.6	16.6	18
(Horse Prairie)			,						
Bloody Dick	13D10	7600	3/17	53	15.8	7.6	11.2		3
Gold Stone	13D9	8100	3/17	66	21.3	10.8	14.4		3
Lemhi Pass	13E1	7400	3/14	46	11.6	6.9	7.6		3
Terrell Creek	13D12	6650	3/15	34	8.3	3.0	4.6		3
Trail Creek	13E2	7090	3/14	45	12.3	7.1	9.0		3
Selway Junction	13D11	6800	3/15	4.3	12.1	5.8	9.2	9.7%	88
(Big Hole)			1-0				- 0 -		2
Big Hole Pass	13D3	7440	3/18	62	20.7	12.9	18.7		8
Big Hole Pass(Bl)		6900	3/18	57	17.8	13.3	13.6		3
East Boundary	13D5	6700	3/18	36	11.4	7.4	7.2		8
Gibbons Pass	13D2	7100	3/30	79	31.0	21.4	24.6		17
Jahnke_Creek	13D8	7340	3/17	51	15.2	8.0	12.2		3
Miner Forks	13D6	7300	3/16	58	18.0	10.6	13.6		8
Miner Lake	13D?	6720	3/16	1,1,1	12.4	7.5	9.8		11
*Moose Creek	13D16	6200	3/31	55	21.9	14.9	17.3	16.2	19
(Wise River)	NP - 1		- /	- 0			_	_	_
Anderson Meadow	13D14	7000	3/19	38	11.0	8.3	8.0		8
Elk Horn	13D15	81,50	2/28	144	14.0	8.5	11.2		21
Wise River	13D13	6300	3/19	26	6.8	5.0	5.8	5.9*	8
(Ruby River)	= 27.	(ad -	- /				- 0		
Flashlight	12D3	6950	3/21	22	5.2	8.1	7.8	5.6%	11

^{*}Average is for less than 15 years of record in the 1938-52 period. **Adjacent Basin



MADISON RIVER No. Elev. Survey Cin. Cin. 1956 Rase Record Total Years AND Content Cin. Cin. 1955 1956 Record Content Cin. 1955 1956 Record Content Cin. 1955 1956 Record Record Cin. 1955 1956 Record Cin. 1956 1956 Record Cin. 1956 1956 Record Cin. 1955 1956 Record Cin. 1956 1956 Record Cin. 1955 1956 Record Cin. 1956 Cin. 1956 Cin. Cin. 1956 Cin. Cin. 1956 Cin. Cin. 1956 Cin. Cin						Calout dol	יייי או כנייז	CIDENC	Estinc,	
Date AND	MISSOURI BASIN				1956	SNOW CO				Total
MADISON RIVER No. Elev. Survey (În.) (In.) 1955 195h Average Record 1938-52					l .	1				
Hebgen		No	Elev							
Hebgen	511.511 0001151	740	DICV.	Dai vey	(211.)	(111.)	1777			1100014
Hebgen										
N. Yelloustone 1137 6700 3/29 h0 1h.1 10.7 12.1 11.6 19 21-Hile 11E6 7150 3/29 61 23.9 15.2 19.6 17.2 19 24-7 21.3 20 25.7 21.3 20 25.7 21.3 20 25.7 21.3 20 25.7 21.3 20 25.7 21.3 20 25.7 21.3 20 25.7 25.3 25.4 25.7 25.3 25.7 25.3 25.4 25.7 25.3 25.4 25.7 25.3 25.4 25.3 25.4 25.7 25.3 25.4 25.7 25.3 25.4 25.7 25.3 25.4 25.7 25.3 25.4 25.7 25.3 25.4 25.7 25.3 25.4 25.7 25.3 25.4 25.7 25.4 25.7 25.4 25.7 25.4 25.7 25.4 25.7 25.4 25.7 25.4 25.7 25.4 25.7 25.4 25.7 25.4 25.7 25.4 25.7 25.4 25.7 25.7 25.4 25.7 25.4 25.7 25.4 25.7 25.4 25.7 25.7 25.4 25.7 25	MADISON RIVER									
N. Yelloustone 1137 6700 3/29 h0 1h.1 10.7 12.1 11.6 19 21-Hile 11E6 7150 3/29 61 23.9 15.2 19.6 17.2 19 24-7 21.3 20 25.7 21.3 20 25.7 21.3 20 25.7 21.3 20 25.7 21.3 20 25.7 21.3 20 25.7 21.3 20 25.7 25.3 25.4 25.7 25.3 25.7 25.3 25.4 25.7 25.3 25.4 25.7 25.3 25.4 25.3 25.4 25.7 25.3 25.4 25.7 25.3 25.4 25.7 25.3 25.4 25.7 25.3 25.4 25.7 25.3 25.4 25.7 25.3 25.4 25.7 25.3 25.4 25.7 25.4 25.7 25.4 25.7 25.4 25.7 25.4 25.7 25.4 25.7 25.4 25.7 25.4 25.7 25.4 25.7 25.4 25.7 25.4 25.7 25.4 25.7 25.7 25.4 25.7 25.4 25.7 25.4 25.7 25.4 25.7 25.7 25.4 25.7 25	II a la secon	~ ~ ~	/ m/ m/ m	- /				_		
21-Mile										
***Fils Drrings	21-Mile			3/29					ſ	
##Valley View 11E8 6500 3/28 16 15.9 13.2 15.1 15.3 20				3/27		22.7	21.9	24.7	21.3	20
Norris Basin 10E2 7500 h/1 36 12.0 9.5 11.5 9.1* 17										
Devil's Slide										
Hood Meadow 10D3 6600 3/26 33 9.0 8.8 6.2 6.8 17	Gallatin River									manifestation of the control of the
Hood Meadow 10D3 6600 3/26 33 9.0 8.8 6.2 6.8 17	Devil's Slide	ומסג	83.00	3/27	70	22.2	18.6	10.7	20 1.25	7.7
New World 10D1 6700 3/29 35 11.h 11.2 8.8 10.2* 17 21-Mile 11E6 7150 3/29 61 23.9 15.2 19.6 17.2 19	Hood Meadow	1003	6600	3/26						
MISSOURI RIVER MAIN STEM Chessman Res. 1205 6200 1/2 21 5.6 5.8 1.8 1.7 20 20 21 23.9 25 20 20 20 20 20 20 20										19
Chessman Res. 12C5 6200 l1/2 21 5.6 5.8 l1.8 l1.7 20 Crystal Lake 901 6100 3/30 35 9.9 9.1 11.2 12.1 15 Grasshopper 10C2 7000 3/30 20 6.1 5.2 6.8 5.3 18 Kings Hill 10Cl 7950 3/29 l16 12.2 11.6 11.0 13.3* 17 Picnic Grounds 13C6 6500 l1/1 22 5.7 l1.1 5.2 l1.1 10 Pipestone Pass 12Dl 7200 3/26 26 5.8 6.0 l1.9 5.7* 17 Stemple Pass 12Cl 6900 3/29 l10 11.1 9.2 13.2 9.8* 17 Tenmile, Lover 12C2 6250 3/30 25 7.1 7.0 7.6 6.5 20 Tenmile, Widdle 12C3 6800 3/30 l0 12.1 10.1 11.0 10.5 20 Tenmile, Upper 12C1 8000 3/30 l7 15.9 13.0 13.5 13.5 20 (Teton River) Freight Creek 12Al 6000 3/30 21 8.0 6.0 12.0 8.6* 8 Waldron Creek 12P2 5600 3/30 21 8.0 6.0 12.0 8.6* 8 Waldron Creek 12P2 5600 3/30 50 17.0 20.2 21.8 19.7* 8 (Sun River) Cabin Creek 12R6 5400 l/1 25 6.6 7.8 11.9 8.0* 7 Gates Park 12B5 5300 l/1 39 12.1 13.1 11.3 17.9 10.3* 7 Goat Mountain 12B7 7000 3/29 l8 l1.1 11.3 17.9 10.3* 7 Goat Mountain 12B7 7000 3/29 l8 l1.1 11.3 17.9 10.3* 7 Wrong Ridge 1233 6800 3/31 66 26.7 18.6 33.0 21.6* 7					35 61					
Chessman Res. 1205 6200 14/2 21 5.6 5.8 4.8 4.7 20 Crystal Lake 901 6100 3/30 35 9.9 9.4 14.2 12.4* 15 Grasshopper 1002 7000 3/30 20 6.4 5.2 6.8 5.3 18 Hings Hill 1001 7950 3/29 46 12.2 11.6 14.0 13.3* 17 Picnic Grounds 1306 6500 4/1 22 5.7 4.1 5.2 4.4 10 Pipestone Pass 12D1 7200 3/26 26 5.8 6.0 4.9 5.7* 17 Stemple Pass 12D1 7200 3/26 26 5.8 6.0 4.9 5.7* 17 Stemple Pass 1201 6900 3/29 40 11.4 9.2 13.2 9.8* 17 Tenmile, Lower 1202 6250 3/30 25 7.4 7.0 7.6 6.5 20 Tenmile, Middle 1203 6800 3/30 40 12.1 10.1 11.0 10.5 20 Tenmile, Upper 1204 8000 3/30 47 15.9 13.0 13.5 13.5 20 (Teton River) Freight Creek 12Al 6000 3/31 53 17.9 12.6 25.3 18.8* 8 Waldron Creek 1272 5600 3/30 24 8.0 6.0 12.0 8.6* 8 West Fork 12Bl 6000 3/30 50 17.0 20.2 24.8 19.7* 8 (Sum River) Cabin Creck 12B6 5400 4/1 25 6.6 7.8 11.9 8.0* 7 Gates Park 12B5 5300 4/1 39 12.4 8.4 19.0 12.3* 7 Goat Mountain 12B7 7000 3/29 48 14.1 11.3 17.9 10.3* 17 Wrong Ridge 1233 6800 3/31 66 26.7 18.6 33.0 24.6* 7	MISSOURI RIVER M	A TRI SUPER							_,	
Crystal Lake 901 6100 3/30 35 9.9 9.4 14.2 12.4* 15 Grasshopper 1002 7000 3/30 20 6.4 5.2 6.8 5.3 18 Kings Hill 1001 7950 3/29 46 12.2 11.6 14.0 13.3* 17 Picnic Grounds 1306 6500 4/1 22 5.7 4.1 5.2 4.4 10 Pipestone Pass 12D1 7200 3/26 26 5.8 6.0 4.9 5.7* 17 Stemple Pass 1201 6900 3/29 40 11.4 9.2 13.2 9.8* 17 Tenmile, Lower 1202 6250 3/30 25 7.4 7.0 7.6 6.5 20 Tenmile, Middle 1203 6800 3/30 40 12.1 10.1 11.0 10.5 20 Tenmile, Upper 1204 8000 3/30 47 15.9 13.0 13.5 13.5 20 (Teton River) Freight Creek 12A1 6000 3/30 24 8.0 6.0 12.0 8.6* 8 Waldron Creek 12B1 6000 3/30 50 17.0 20.2 24.8 19.7* 8 (Sun River) Cabin Creek 12B6 5400 4/1 25 6.6 7.8 11.9 8.0* 7 Gates Park 12B5 5300 4/1 39 12.4 8.4 19.0 12.3* 7 Goat Mountain 12B7 7000 3/29 48 14.1 11.3 17.9 10.3* 17 Wrong Ridge 1233 6800 3/31 66 26.7 18.6 33.0 24.6* 7	MIDDOORT RIVER PA	HIN DIE								
Grasshopper 1002 7000 3/30 20 6.4 5.2 6.8 5.3 18 Hings Hill 1001 7950 3/29 46 12.2 11.6 14.0 13.3* 17 Picnic Grounds 1306 6500 4/1 22 5.7 4.1 5.2 4.4 10 Pipestone Pass 12D1 7200 3/26 26 5.8 6.0 4.9 5.7* 17 Stemple Fass 1201 6900 3/29 40 11.4 9.2 13.2 9.8* 17 Tenmile, Lower 1202 6250 3/30 25 7.4 7.0 7.6 6.5 20 Tenmile, Middle 1203 6800 3/30 40 12.1 10.1 11.0 10.5 20 Tenmile, Upper 1204 8000 3/30 47 15.9 13.0 13.5 13.5 20 (Teton River) Freight Creek 12A1 6000 3/31 53 17.9 12.6 25.3 18.8* 8 Waldron Creek 12B2 5600 3/30 24 8.0 8.0 12.0 8.6* 8 West Fork 12B1 6000 3/30 50 17.0 20.2 24.8 19.7* 8 (Sun River) Cabin Creck 12B6 5400 4/1 25 6.6 7.8 11.9 8.0* 7 Gates Park 12B5 5300 4/1 39 12.4 8.4 19.0 12.3* 7 Goat Mountain 12B7 7000 3/29 48 14.1 11.3 17.9 10.3* 17 Wrong Ridge 12B3 6800 3/31 66 26.7 18.6 33.0 24.6* 7										
Hings Hill 10C1 7950 3/29 46 12.2 11.6 14.0 13.3* 17 Picnic Grounds 13C6 6500 4/1 22 5.7 4.1 5.2 4,4 10 Pipestone Pass 12D1 7200 3/26 26 5.8 6.0 4.9 5.7* 17 Stemple Pass 12C1 6900 3/29 40 11.4 9.2 13.2 9.8* 17 Tenmile, Lower 12C2 6250 3/30 25 7.4 7.0 7.6 6.5 20 Tenmile, Middle 12C3 6800 3/30 40 12.1 10.1 11.0 10.5 20 Tenmile, Upper 12C4 8000 3/30 47 15.9 13.0 13.5 13.5 20 (Teton River) Freight Creek 12Al 6000 3/31 53 17.9 12.6 25.3 18.8* 8 West Fork 12P1 6000 3/30 50 17.0 20.2 24.8 19.7* 8										
Picnic Grounds 1306 6500 1/1 22 5.7 1.1 5.2 1.1 10 Pipestone Pass 12D1 7200 3/26 26 5.8 6.0 1.9 5.7% 17 Stemple Fass 12C1 6900 3/29 10 11.1 9.2 13.2 9.8% 17 Tenmile, Lower 12C2 6250 3/30 25 7.1 7.0 7.6 6.5 20 Tenmile, Middle 12C3 6800 3/30 40 12.1 10.1 11.0 10.5 20 Tenmile, Upper 12C1 8000 3/30 47 15.9 13.0 13.5 13.5 20 (Teton River) Freight Creek 12A1 6000 3/31 53 17.9 12.6 25.3 18.8% 8 Waldron Creek 12B2 5600 3/30 24 8.0 8.0 12.0 8.6% 8 West Fork 12B1 6000 3/30 50 17.0 20.2 24.8 19.7* 8						12.2				
Stemple Fass 12C1 6900 3/29 40 11.4 9.2 13.2 9.8* 17 Tenmile, Lower 12C2 6250 3/30 25 7.4 7.0 7.6 6.5 20 Tenmile, Widdle 12C1 8000 3/30 40 12.1 10.1 11.0 10.5 20 Tenmile, Upper 12C1 8000 3/30 47 15.9 13.0 13.5 13.5 20 (Teton River) Freight Creek 12A1 6000 3/31 53 17.9 12.6 25.3 18.8* 8 Waldron Creek 12B2 5600 3/30 24 8.0 6.0 12.0 8.6* 8 West Fork 12B1 6000 3/30 50 17.0 20.2 24.8 19.7* 8 (Sun River) Cabin Creek 12B6 5400 4/1 25 6.6 7.8 11.9 8.0* 7 Gates Park 12B5 5300 4/1 39 12.4 8.1 19.0 12.3* <td< td=""><td></td><td></td><td></td><td>4/1</td><td>22</td><td>5.7</td><td>4.1</td><td>5.2</td><td>4.4</td><td>10</td></td<>				4/1	22	5.7	4.1	5.2	4.4	10
Tenmile, Lower 1202 6250 3/30 25 7.4 7.0 7.6 6.5 20 Tenmile, Middle 1203 6800 3/30 40 12.1 10.1 11.0 10.5 20 Tenmile, Upper 1204 8000 3/30 47 15.9 13.0 13.5 13.5 20 (Teton River) Freight Creek 12A1 6000 3/31 53 17.9 12.6 25.3 18.8* 8 Waldron Creek 12B2 5600 3/30 24 8.0 8.0 12.0 8.6* 8 West Fork 12B1 6000 3/30 50 17.0 20.2 24.8 19.7* 8 (Sun River) Cabin Creck 12B6 5400 4/1 25 6.6 7.8 11.9 8.0* 7 Gates Park 12B5 5300 4/1 39 12.4 8.4 19.0 12.3* 7 Goat Mountain 12B7 7000 3/29 48 11.1 11.3 17.9 10.3* 17 Wrong Ridge 12B3 6800 3/31 66 26.7 18.6 33.0 24.6* 7						5.8				
Tenmile, Middle 1203 6800 3/30 40 12.1 10.1 11.0 10.5 20 Tenmile, Upper 1204 8000 3/30 47 15.9 13.0 13.5 13.5 20 (Teton River) Freight Creek 12A1 6000 3/31 53 17.9 12.6 25.3 18.8% 8 Waldron Creek 12B2 5600 3/30 24 8.0 8.0 12.0 8.6% 8 West Fork 12B1 6000 3/30 50 17.0 20.2 24.8 19.7% 8 (Sun River) Cabin Creek 12B6 5400 4/1 25 6.6 7.8 11.9 8.0% 7 Gates Park 12B5 5300 4/1 39 12.4 8.4 19.0 12.3% 7 Goat Mountain 12B7 7000 3/29 48 14.1 11.3 17.9 10.3% 17 Wrong Ridge 12B3 6800 3/31 66 26.7 18.6 33.0 24.6% 7	~						1			
(Teton River) Freight Creek 12Al 6000 3/31 53 17.9 12.6 25.3 18.8* 8 Waldron Creek 12B2 5600 3/30 24 8.0 6.0 12.0 8.6* 8 West Fork 12B1 6000 3/30 50 17.0 20.2 24.8 19.7* 8 (Sun River) Cabin Creek 12B6 5400 4/1 25 6.6 7.8 11.9 8.0* 7 Gates Park 12B5 5300 4/1 39 12.4 8.4 19.0 12.3* 7 Goat Mountain 12B7 7000 3/29 48 14.1 11.3 17.9 10.3* 17 Wrong Ridge 12B3 6800 3/31 66 26.7 18.6 33.0 24.6* 7				3/30	40	12.1	10.1	11.0	10.5	
Freight Creek 12Al 6000 3/31 53 17.9 12.6 25.3 18.8* 8 Waldron Creek 12B2 5600 3/30 24 8.0 8.0 12.0 8.6* 8 West Fork 12B1 6000 3/30 50 17.0 20.2 24.8 19.7* 8 (Sun River) Cabin Creek 12B6 5400 4/1 25 6.6 7.8 11.9 8.0* 7 Gates Park 12B5 5300 4/1 39 12.4 8.4 19.0 12.3* 7 Goat Mountain 12B7 7000 3/29 48 14.1 11.3 17.9 10.3* 17 Wrong Ridge 12B3 6800 3/31 66 26.7 18.6 33.0 24.6* 7		TSOff	8000	3/30	47	15.9	13.0	13.5	13.5	20
Waldron Creek 1232 5600 3/30 24 8.0 8.0 12.0 8.6* 8 West Fork 1281 6000 3/30 50 17.0 20.2 24.8 19.7* 8 (Sun River) Cabin Creck 1286 5400 4/1 25 6.6 7.8 11.9 8.0* 7 Gates Park 1285 5300 4/1 39 12.4 8.4 19.0 12.3* 7 Goat Mountain 1287 7000 3/29 48 14.1 11.3 17.9 10.3* 17 Wrong Ridge 1233 6800 3/31 66 26.7 18.6 33.0 24.6* 7				3/31	53	17.9	12.6	25.3	18.8*	8
(Sun River) Cabin Creck 12B6 5400 4/1 25 6.6 7.8 11.9 8.0% 7 Gates Park 12B5 5300 4/1 39 12.4 8.4 19.0 12.3% 7 Goat Mountain 12B7 7000 3/29 48 14.1 11.3 17.9 10.3% 17 Wrong Ridge 1283 6800 3/31 66 26.7 18.6 33.0 24.6% 7					24	8.0	6.0	12.0	8.6*	8
Cabin Creck 12B6 5400 4/1 25 6.6 7.8 11.9 8.0* 7 Gates Park 12B5 5300 4/1 39 12.4 8.4 19.0 12.3* 7 Goat Mountain 12B7 7000 3/29 48 14.1 11.3 17.9 10.3* 17 Wrong Ridge 12B3 6800 3/31 66 26.7 18.6 33.0 24.6* 7		TSST	0000	3/30	50	17.0	20.2	24.8	19.7%	8
Gates Park 12B5 5300 4/1 39 12.4 8.4 19.0 12.3* 7 Goat Mountain 12B7 7000 3/29 48 14.1 11.3 17.9 10.3* 17 Wrong Ridge 12B3 6800 3/31 66 26.7 18.6 33.0 24.6* 7	Cabin Creck				25		7.8	11.9	8.0%	7
Wrong Ridge 1283 6800 3/31 66 26.7 18.6 33.0 21.6* 7					39	12.4	8.1	19.0	12.3*	7
7 1011/3 01667 12 14 5 700 5 7 50 40 17.1 14.3 25.4 17.2* 7	Wrong Creek	1234	5700	3/30	48	17.1	14.3	25.4		7

^{*}Average is for less than 15 years of record in the 1938-52 period **Adjacent Basin



					-				
				,	SNOW COT				CONTRACTOR OF TAXABLE PROPERTY OF
MISSOURI BASIN				1956			st Rec		Total
DRAINAGE BASIN			Date	Snow	Water	Wate	r Con		Years
VMD	D.T.	777	of	Depth		י טלל	3	15-Year	of Record
SNOW COURSE	No.	Elev.	Survey	(In.)	(In.)	1955	1954	Average 1938-52	necord
William and the control of the contr							1	1750-72	
MISSOURI RIVER MA	AIN STEA	(Cont'	1)					province as automorphism of the design of th	
(Marias River)									
Marias Pass	13A5	5250	3/27	65	23.4	18.6	28.6	17.6	20
1-61 TOD 1 COD	<u> </u>	7270	2/21		-J•4	10.0	20.0	1,00	20
(Milk River)									
Rocky Boy	9Al	5200	3/31	12	4.1	5.4	6.2	5.4*	14
(75									
(Musselshell) Grasshopper	1002	7000	3/30	20	6.4	5.2	6.8	5.3	18
ar assnopper	1002	1000	1 3/30	20	0.4	7.2	0.0	7.0	10
UPPER YELLOWSTONI	<u> </u>								
0 0	0107	7000	1 /1	277	0.0	٦ ,	ے د	. 0	7.0
Camp Senia	9D1 10E3	7890 7750	4/4 4/1	37 61	9.0 20.9	5.0	7.5 17.8		18 10
Canyon Cooke City	10D7	7400	14/1	35	11.7	6.7	10.8	1	19
Crevice Mt.	10D5	8400	1/2	40	11.9	6.7	9.8		21
Independence	10D6	8000	4/5	67	24.3		19.4		13
Lake Camp	10E4	7850	4/1	53	18.0	8.8	12.3		18
Lodgepole, Wyo.	9E1	8200	1/1	52	16.8	10.4	12.7	11.2*	18
Lupine	lÓEl	7300	4/1	51	14.0	12.2	13.1		17
**Astor Creek	10E8	7700	3/31	113	48.7	30.6	38.0		26
**Thumb Divide	10E7	7900	3/31 3/30	83	35.5	20.8	28.0	22.7%	9
(Chialda Di)									
(Shields River) Porcupine	1003	6500	11/3	30	8.5	6.0	7.8	6.3*	17
τοιοπότιιο	100)	Q)00	11/)		U•7	0.0	7.0	U•5*	-La (
			1	<u> </u>		1		1	

^{*}Average is for less than 15 years of record in the 1938-52 period **Adjacent Basin



					SNOW CO	VER MEA	SUREM	ENTS	
MISSOURI BASIN DRAINAGE BASIN			Date	1956 Snow	Water	Pas	t Rec r Con	ord	Total Years
AND			of	Depth	Content			15-Year	of
SNOW COURSE	No.	Elev.	Survey	(In.)	(In.)	1955		Average 1938-52	Record
					1	2			
LOWER YELLOWSTONE	(Wind	River)				800 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			
Big Warm	9F12	8800	3/27	48	14.3	8.8			1
Brooks Lake Burroughs Creek	10F8 9F4	9200 8800	3/26 3/28	86 60	33.9	22.1	28.5 16.5	18.3*	20 7
Dinwoodie Dry Creek	9F10 9F9	10000 9500	3/29	54 34	18.1 9.9	10.5	13.9	1	6
DuNoir East Fork	9F6 9F13	8750 9200	2/27	144	13.2	7.7	9.9 ourse	9.9%	15
Geyser Creek	9F7	8500	3/27	39	11.4	7.6	9.9	10.7*	7
Little Warm Sheridan R.S. #2	9F8 9F 1 4	9500 7500	3/27 3/26	74 38	25.6 10.9	111.11	20.1	7.3	7 20
T-Cross Ranch Togwotee Pass	9F3 10F9	8000 9600	3/28 3/30	32 99	10.2	5.9 27.7	9.5 34.7		15 20
LOWER YELLOWSTONE		Agie Ri							
	8G2	9500	4/1	48	17 1	12.4	17.4	12.4*	16
Blue Ridge Bruce's Camp	8G5	6500		tr.	17.1	, 2.1			1
Hobbs Park Mosquito Park R.S	9G3 . 9G4	10000 9500	3/31 3/31	62 32	23 . 9	15.1	23.7		7 11
Sawmill Glade South Pass	8G1 8G3	8500 9000	4/1	²⁶ 53	7.8 20.0	7.9	11.0		16 16
St. Lawrence R.S.	9F11	9000	3/30	30	9.9	6.6	9.0	8.2*	12
Trout Creek	9G2	8400	3/31	12	4.0	5.9	10.3	7.1%	7
LOWER YELLOWSTONE	(Owl (Creek)			A USO COMPANY				
Beavers Mill Owl Creek	9F2 8F1	8900 8700	3/31	2lt	5.8	4.9	N.R.		6
LOWER YELLOWSTONE	(Grey	oull Riv	er)						
Timber Creek #1	9 E 2	8800	3/28	19	4.2	3.5	6.9	6.2*	7 <u>1</u>
Timber Creek #2 Wood River #1	9E3 9F1	8800 8000	3/28 3/29	13 26	2.2 5.8	3.1	7.3	5.5* 5.5*	16

^{*}Average is for less than 15 years of record in the 1938-52 period **Adjacent Basin



			SNOW COVER MEASUREMENTS						
MISSOURI BASIN DRAINAGE BASIN			Date	1956 Snow	Water	Past Record Water Content			Total Years
AND			of		Content	Wat		15-Year	of
SHOW COURSE	No.	Elev.	Survey	(In.)	(In.)	1955		Average 1938 - 52	Record
LOWER YELLOWSTONE	[r)								
East Entrance	10E6	7000	3/29	40	16.3	9.8	13.4	14.4*	7
Sylvan Pass	10E5	7100	3/29	51	20.5	11.4	15.0	14.7	18
LOWER YELLOWSTONE (Nowood Creek)									
Munkres Pass (Muddy		9700	14/2	43	11.8	8.0	9.4	8.8*	6
Onion Gulch	7E27	8100	1,/2	36	10.5	New	Course		
LOWER YELLOWSTONE	(Shell	Creek)							
Bald Mountain	7E21	9600	3/18	65	19.8	7	Course		
Beaver-Tongue Div. Bone-Spring Div.	7E20 7E18	9200 9200	3/17 3/19	71 62	19.9	11	11		
Granite Pass	7E17	8950	3/19	63	17.7	11	Ħ		
Horse-Trail Div.	7E19	9200 8800	3/17	65	18.2	0.1	8.8	0 1 v	٦0
Ranger Creek Shell Creek	7E4 7E23	9600				8.4 New	Course	8.¼*	18
LOWER YELLOWSTONE (Porcupine Creek)									
Five Springs Falls		7500	4/1	21	7.0		Course		
Medicine Wheel	7E30	9000	3/18	52	14.2	11	ti		
LOWER YELLOWSTONE (Tongue River)									
Beaver-Tongue Div.		9200	3/17	71	19.9	tr	11		
Big Goose #1 Big Goose #2	7E2 7E32	7700 7700	3/25 3/25	17 34	9.4	6.4 New	5.5 Course	4.1	20
Bone-Spring Div.	7 E 18	9200	3/19	62	18.1	11	fi se		



MONTANA SNOW SURVEYS - APRIL 1, 1956

Ministrative at the second set of the second		SNOW COVER MEASUREMENTS							
MISSOURI BASIN			Dadoo	1956 Snow	Water	5	st Red er Con		Total Years
DRAINAGE DASHI AND			Date		Content		31, 001	15-Year	01
SHOW COURSE	No.	Elev.	Survey	(ln.)			1954	Average	Record
				1	<u> </u>			1938-52	
				A company of		1			
LOWER YELLOWSTONE	(Tongue	e River	Cont'd)			: •			
Burgess R.S. #1	7El	7900	3/18	33	7.2		20.0		5
Burgess R.S. #2	7E33	7900	3/18	37	8.2	1	Cours	š	1.
Dome Lake #1 Dome Lake #2	7E3 7E34	0088 0088	3/25	37 43	9.8		ll.0		Σţ
Gloom Creek	7E14	9300	3/20	51	13.7	11	11		
Granite Pass	7E17	8950	3/19	36	17.7	ti	tt .		
Horse-Trail Div.	7E19 7E16	9200	3/17 3/26	65	18.2	tt , tt	ft : It	l	
Lake Geneva North Tongue	7E15	9000	3/20	36 51	13.9	11	11	1	
Sibley Lake	7E11	8000	3/16	45	10.5	11	11	>	
Sucker Creek	7E12	9000	3/20	47	13.1	11	tt		
Steamhoat Point	7 <u>5</u> 10	7500	3/20	33 45	8.5	11	11 12		
Wood Rock G.S.	7E13	8500	3/20	45	12.1				
LOWER YELLOWSTOLE	(Powder	River)							
Crazy Woman	7E29	8200	4/1	27	7.0	11	ŧŧ.		
Muddy Creek G.S.	7E28	7800	4/1	19	5.5	"	11	0 0 4	
Munkres Pass(Fuddy Onion Gulch	r) 7 <u>E</u> 8 7E27	9700 8100	14/2	43 36	11.8	8.0 New	9.lı Cours		6
Soldier Park	7E5	8700	3/30	35	9.6	N.R.			5
Sour Dough	7E6	8500	3/29	40	11.8	7.7	9.0		19
Upper Doyle		8200	4/1	35	9.4	New	Cours	e	-



			SNOW COVER MEASUREMENTS						
COLUMBIA BASIN DRAINAGE BASIN AND			Date of	1956 Snow	Water Content	Past Record Water Content			Total Years of
SHOW COURSE	No.	Elev.	Survey	(In.)	(In.)	1955	1954	Average 1938-52	Record
MOOTEMAI RIVER (ab	oove Li	bby, No	ntana)			A CAMPA STANDS OF THE PROPERTY		en constituent out of the constituent of the consti	
Baree Mt. Brush Creek Fernic Mew Fernic Ferguson Kimberley Marble Canyon Nelson Creek Red Mountain Sinclair Pass Smith Creek Sullivan Mine Upper Elk River Gerrard Gray Creek Sandon Blue Bird Neasel Divide	1531 14A4 Can Can Can Can Can Can 15A1 Can 16A1 Can Can Can Can Can Can	6000 5000 3500 4100 3000 3800 5000 4500 4500 4400 5100 5100 5100 6800 5250	14/1 3/29 4/3 14/3 3/31 3/31 3/29 3/30 3/31 3/20 4/1 3/31 3/28 3/31 4/1 4/3	145 54 38 50 70 32 59 68 74 26 162 58 37 60 69 52 132 108	61.4 19.0 10.6 17.5 29.5 12.2 14.5 24.5 25.6 7.5 61.4 20.4 13.9 16.1 20.5 51.1 40.9	41.0 14.2 11.1 16.3 19.8 6.2 12.1 15.1 15.9 4.9 14.3 10.5 8.4 21.9 18.5 12.1 33.9 29.1	60.3 19.1 16.4 23.8 29.2 12.1 19.0 23.0 26.8 10.3 60.2 19.3 11.0 20.8 22.5 18.9 54.0	12.0% 7.6% 19.5% 5.5% 14.8% 13.8 18.4% 5.0 11.9% 16.2%	17 18 18 18 18 19 17 19 17 10 6 21 8 18 17
Basin Creek Big Creek Blue Bird Brush Creek Cattle Queen Coyote Hill Desert Mountain Hell Roaring Div. Holbrook Hishenehn #2 Hishenehn #3 Logan Creek Marias Pass N. Fork Jocko Quintonkon Spotted Bear Mt. Strawberry Lake Trinkus Lake Trout Lake Twin Creeks Upper Holland Wrong Ridge	13814 1383 14A1 14A4 13A1 13A2 12B7 14A3 13B13 14A2 14A6 14A5 13A5 13A5 13A5 13A13 13B2 13A10 13B1 13A12 13B1 13B5 12B3	6750 6800 5000 1,700 1,200 5600 7000 1,530 1,300 1,300 1,300 5250 6330 3800 7000 6500 3600 3580 7000	3/29 l ₁ /2 l ₄ /l ₄ 3/29 3/23 l ₁ /2 3/26 3/29 3/29 3/20 3/31 3/30 3/29 l ₄ /2 3/28 l ₄ /2 3/28	36 120 132 54 102 34 59 48 94 30 29 41 41 65 128 47 48 117 127 49 36 106 66	12.3 50.4 51.1 19.0 38.2 12.0 18.7 14.1 34.4 10.3 7.4 11.4 11.4 23.4 11.4 23.4 11.4 23.4 11.6 11.6 10.5 15.9 16.9 16.0 11.6 10.1 1	14.8 13.3 25.1 11.7 6.7 10.0 9.0 18.6 40.9 16.0	16.0 43.1 54.0 19.1 49.8 13.2 18.3 17.9 37.9 17.3 15.2 18.3 11.0 28.6 49.0 16.8 37.9 19.4 13.0 39.2 33.0		5 17 17 17 17 17 11 10 37 20 15 8 8 8 7 7



		······································	SNOW COVER MEASUREMENTS							
COLUMBIA BASIN DRAINAGE BASIN			Date	1956 Snow	Water			cord ntent	Total Years	
AND SNOW COURSE	No.	Elev.	of Survey	Depth	Content			15-Year Average 1938-52	of	
UPPER CLARK FORE										
Chessman Res. Coyote Hill East Fork R.S. El Dorado Mine Fish Lake, Idaho **49 Meadows Freeze-Out Sum. Gold Creek Lake Hoodoo Creek Intergaard **Lookout Lubracht Forest # Horth Fork Jocko Picnic Grounds Pipestone Pass Skalkaho Summit Slide Rock Mt. Smith Creek Southern Cross Stemple Pass Storm Lake #2 Stuart Mill Stuart Mt. #1 Tenmile, Lower Tenmile, Middle Tenmile, Upper TV Hountain	1501 1304 1532 1308 1387 1206 12D1 1303 1302 16A1 1305 1201 1307 1306 1301	54,00 78,00 50,00 50,00 70,00 72,00 64,50 54,00 65,00 72,58 71,00 48,00 65,00 65,00 71,00 65,00 71,00 62,50 68,00	4/1 14/2 14/2 14/2 14/2 3/28 3/30 14/2 14/2 14/2 14/2 14/2 14/2 14/2 14/2 14/2 14/2 14/2 14/2 14/2 14/2 3/30 14/2 3/28 3	145 21 34 24 68 125 109 140 133 128 26 86 162 240 56 25 25 40 47 68	5.6 12.0 8.6 24.6 51.4 56.5 18.5 18.5 55.7 8.6 18.6 18.6 18.6 18.6 18.6 18.6 18.6	11.0 11.0	60.3 4.8 13.2 7.2 38.3 46.9 39.0 39.0 49.5 49.5 49.5 49.5 10.0 13.5 11.0 13.5 11.0 13.5 11.0 13.5 14.0 13.5 14.0 15.0 16	4.7 11.2* 5.5* 35.0 32.0 47.3 8.2* 33.5 40.7* 4.4* 5.7* 25.1* 15.3 41.9* 5.5* 9.6*	17 3 19 19 2 19 11 19 17 17 19 17 10 17 10 19 20	
BITTERROOT									and the second s	
East Fork R.S. Gibbons Pass **Kit Carson Lole Pass **Moose Creek Nezperce Pass Nezperce Camp **Packers Meadow **Powell R.S. **Savage Pass Skalkaho Summit Stuart Mt. #1	13D1 13D2 14D3 14C5 13D16 14D1 14D2 14C2 14C6 14C6 14C6 13C3 13C1	5400 7100 4700 5300 6200 6575 5580 5700 4230 6000 7259 7400	4/2 3/30 3/26 4/2 3/31 3/26 3/26 4/2 4/2 4/3 3/22 1/2	24 79 34 98 55 61 62 57 88 93	23.0 21.5 27.4 18.1 39.6	8.1 21.4 11.2 14.9 17.3 16.0 25.3 15.8 26.1 25.0 24.2		5.5* 23.5* 7.8 New 16.2 17.7 13.5 21.9 13.3* 25.8* 25.1* 30.5	17 17 19 1 19 19 19 19 17 18 17	



STATUS OF RESERVOIR STORAGE MISSOURI RIVER IN MONTANA April, 1956

	BASIN USABLE THOUSAND ACRE FEET IN STORAGE									
NISSOURI RIVER DASH 1000's AF 1956 1955 195h 1938-52			l .	111005.			15-Yr.Avg.			
Deaverhead Lima	STREAM	RESERVOIR		1956			1938-52			
Madison River Hobgen Lake 3h5.00 176.20 212.50 196.70 23h.05 Madison River Ennis Lake h1.00 29.89 33.17 3h.06 32.64 Myalito Creek Middle Creek 20h3.00 1,582.0 1,255.0 865.h 4.76										
Shoshone River Buffalo Bill 440.00 117.2 133.8 147.8 252.8 Wind River Boysen 408.60 2.5 268.7 302.0 152.4* Wind River Pilot Butte 31.6 23.3 26.4 17.7 17.2* Bull Creek Bull Lake 152.00 55.3 62.2 69.3 51.6* Belle Fourche Key Hole 190.00 20.8 15.0 8.6 1.3* MISSOURI RIVER BASIN - NORTH DAKOTA Heart River Heart Butte 54.80 60.7 70.2 Heart River Dickerson 4.3 5.7 5.2 Missouri River Garrison Lake 18,100.0 1,457.0 New Res. MISSOURI RIVER BASIN - SOUTH DAKOTA Belle Fourche Belle Fourche 185.00 98.8 68.0 120.4 117.2* Cheyenne River Deerfield 15.1 10.6 10.7 15.1 13.7*	Madison River Madison River Hyalite Creek Missouri River Missouri River Missouri River Missouri River Missouri River M. Fk. Sun River N. Fk. Sun River N. Fk. Sun River Birch Creek Dupuyer & Birch Judith River Missouri River Milk River Milk River	Hebgen Lake Ennis Lake Middle Creek Canyon Ferry Hauser & Helena Lake Helena Holter Lake Gibson Willow Creek Pishkun Swift Lake Francis Ackley Lake Ft. Peck Fresno Nelson	345.00 41.00 2043.00 2043.00 10.45 81.92 105.00 32.30 32.00 30.00 112.00 5.82 ,00.00 L 127.20 66.80	176.20 29.89 3.67 ,582.0 49.79 6.21 44.44 74.59 28.18 16.25 24.56 91.72 4.15	212.50 33.47 5.64 1,255.0 56.75 8.45 76.28 74.84 26.41 19.16 30.04 96.95 4.36 9,611.0 12 131.90 53.45	196.70 34.06 4.76 865.4 48.27 5.75 79.55 54.88 25.73 24.66 30.22 92.62 2.20 2,400.0 128.40 44.02	23h.05 32.6h 44.6* 6.8* 55.2 7.30 14.1 18.5 24.9 78.8 4.5* 10,575.0* 82.8* 31.8			
Wind River Boysen 408.60 2.5 268.7 382.0 152.4* Wind River Pilot Butte 31.6 23.3 26.4 17.7 17.2* Brll Creek Bull Lake 152.00 55.3 62.2 69.3 51.6* Belle Fourche Key Hole 190.00 20.8 15.0 8.6 1.3* MISSOURI RIVER BASIN - NORTH DAKOTA Heart Butte 54.80 60.7 70.2 Heart River Dickerson 4.3 5.7 5.2 Missouri River Garrison Lake 18,100.0 1,457.0 New Res. 8.2 1.20.4 117.2* MISSOURI RIVER BASIN - SOUTH DAKOTA 185.00 98.8 68.0 120.4 117.2* Belle Fourche 185.00 78.4 46.5 32.7 41.0* Cheyenne River Deerfield 15.1 10.6 10.7 15.1 13.7*	MISSOURI RIVER PAS	EIN - WYOMING								
Heart River	Wind River Wind River Bull Creek	Boysen Pilot Butte Bull Lake	408.60 31.6 152.00	2.5 23.3 55.3	268.7 26.4 62.2	382.0 17.7 69.3	152.4* 17.2* 51.6*			
Heart River	MISSOURI RIVER BAS	IN - NORTH DAKOT	<u>A</u>				,			
Belle Fourche Belle Fourche 185.00 98.8 68.0 120.4 117.2* Cheyenne River Angostura 160.00 78.4 48.5 32.7 41.0* Cheyenne River Deerfield 15.1 10.6 10.7 15.1 13.7*	Heart River	Dickerson .	4.3	 L,457.0	5.7	5.2				
Cheyenne River Angostura 160.00 78.4 48.5 32.7 41.0* Cheyenne River Deerfield 15.1 10.6 10.7 15.1 13.7*	MISSOURI RIVER BAS	SIN - SOUTH DAKOT	<u>A</u>							
	Cheyenne River Cheyenne River	Angostura Deerfield	160.00 15.1	78.4	48.5 10.7	32.7 15.1	11.0%			

^{*}Average is for less than 15 years of record in the 1938-52 period



STATUS OF RESERVOIR STORAGE COLUMBIA RIVER IN MONTANA April, 1956

BASIN & STREAM	Ec		THOUS!	ORAGE 15-Yr.Avg. 1938-52		
COLUMBIA RIVER BAS Flint Creek S.Fk.Flathead Flathead River Flathead River 6/ Flathead River 7/ Jocko Creek	IN Georgetown Lk Hungry Horse Flathead Lake Camas Res. Mission Valley Lower Jocko Lk		19.16 2,084.0 871.4 37.58 29.24	2,107.0 675.0 l ₄ 1.1	21.7 1,634.0 910.0 33.8 25.2	19.8* 967.8* 22.9* 49.9* 0.4*

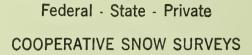
^{6/} Camas Reservoirs are shown as a sum of (4) small reservoirs on the west side of Flathead Lake located on Dry Creek and Little Bitterroot River.

^{7/} Mission Valley Reservoirs are shown as a sum of (8) small reservoirs located south and east of Flathead Lake. Both Camas and Mission Valley Reservoirs are operated by the Indian Irrigation Service.

^{*} Average is for less than 15 years of record in the 1938-52 period.







Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"WATER IS THE WEST'S GREATEST RESOURCE"